

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-18. (canceled).

19. (new):

A method to reduce the driving voltage of a device comprising a smectic A liquid crystal composition and to enhance dynamic light scattering of the composition, said method comprising doping a smectic A liquid crystal composition with an ionic dopant comprising a sulfur or a phosphorous containing anion with a cation.

20. (new): A device comprising a smectic A liquid crystal composition, wherein the smectic A liquid crystal composition comprises one or more ionic dopants, wherein the ionic dopant comprises a sulfur or a phosphorus containing anion with a cation, wherein the ionic dopant reduces the driving voltage of the device and enhances dynamic light scattering of the composition.

21. (new): The device as claimed in claim 20, wherein the device is a display or a light shutter.

22. (new): A method of doping a smectic A liquid crystal composition, comprising adding an ionic dopant to a smectic A liquid crystal composition, wherein the ionic dopant

comprises a sulfur or a phosphorus containing anion with a cation, wherein the ionic dopant reduces the driving voltage of a device comprising the smectic A liquid crystal composition and enhances dynamic light scattering of the composition.

23. (new): A smectic A liquid crystal composition, comprising one or more ionic dopants, wherein the ionic dopant comprises a phosphorus containing anion with a cation, wherein the ionic dopant reduces the driving voltage of a device comprising the smectic A liquid crystal composition and enhances dynamic light scattering of the composition.

24. (new): The composition as claimed in claim 23, wherein the anion comprises X, and X is one of the following: POH^- , PO_2H^- , PO_3H^- , $(\text{PO}_3)^{2-}$, PO_4H^- or $(\text{PO}_4)^{2-}$.

25. (new): The composition as claimed in claim 23, wherein the anion is according to formula I:



I

wherein X is POH^- , PO_2H^- , PO_3H^- or $(\text{PO}_3)^{2-}$; m is 0 or 1; n is 0 to 19; and R is R^3 , R^1R^3 , $\text{R}^1\text{-(CO}_2\text{)-R}^3$, $\text{R}^1\text{-(CO}_2\text{)-R}^2\text{R}^3$, $\text{R}^1\text{-(CH}_2\text{)}_p\text{R}^3$, or $\text{R}^1\text{-(CH}_2\text{)}_p\text{R}^2\text{R}^3$; wherein R^1 is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R^2 is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R^3 is a hydrogen, a cyano

group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH_2 -groups are replaced by an oxygen atom; and p is 0 to 19.

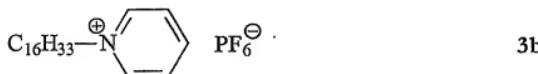
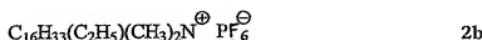
26. (new): The composition as claimed in claim 23, wherein the anion comprises:

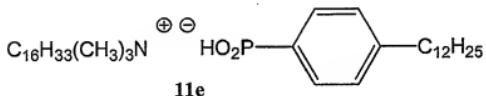
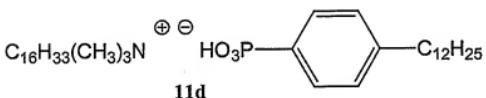
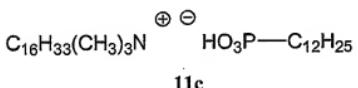
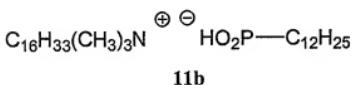
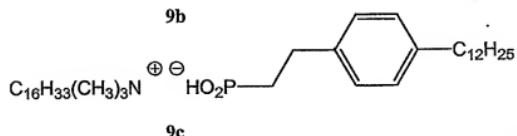
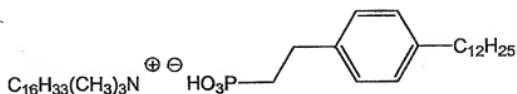


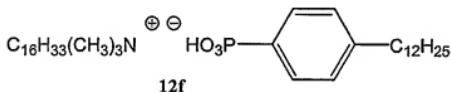
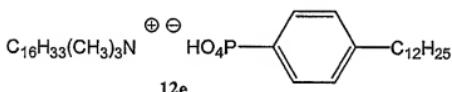
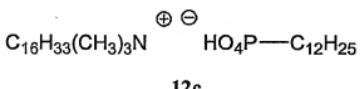
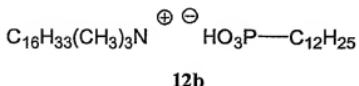
wherein X is PO_3H^+ or $(\text{PO}_3)^{2-}$, and R^3 is an alkyl or alkoxy chain.

27. (new): The composition as claimed in claim 23, wherein the anion is chiral.

28. (new): The composition as claimed in claim 23, wherein the dopant is:







29. (new): The composition as claimed in claim 23, wherein the cation is a quaternary ammonium cation.

30. (new): A smectic A liquid crystal composition, comprising one or more ionic dopants, wherein the ionic dopant comprises a sulfur containing anion with a cation, wherein the ionic dopant reduces the driving voltage of a device comprising the smectic A liquid crystal composition and enhances dynamic light scattering of the composition, wherein:

- (a) the anion comprises X, and X is one of the following: S[−], SO₂[−], SO₄^{2−} or NHSO₃[−]; or
- (b) the anion is according to formula I:



wherein X is S⁻, SO₂⁻ or NHSO₃⁻; m is 0 or 1; n is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(c) the anion is according to formula I:



wherein X is S⁻, SO₂⁻, SO₃⁻ or NHSO₃⁻; m is 1; n is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(d) the anion is according to formula I:

X-O_m(CH₂)_n-R

I

wherein X is S⁻, SO₂⁻, SO₃⁻ or NHSO₃⁻; m is 0 or 1; n is 0 to 19; and R is R³, R¹-(CO₂)-R³,

R¹-(CO₂)-R²R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(e) the anion is according to formula I:

X-O_m(CH₂)_n-R

I

wherein X is S⁻, SO₂⁻, SO₃⁻ or NHSO₃⁻; m is 0 or 1; n is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a biphenyl, a

substituted biphenyl, a terphenyl, a substituted terphenyl, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(f) the anion is according to formula I:



wherein X is S^- , SO_2^- , SO_3^- or $NHSO_3^-$; m is 0 or 1; n is 0 to 19; and R is R^3 , R^1R^3 , R^1-
 $(CO_2)-R^3$, $R^1-(CO_2)-R^2R^3$, $R^1-(CH_2)_p-R^3$, or $R^1-(CH_2)_p-R^2R^3$; wherein R^1 is a phenyl, a substituted
phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a
non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine,
a biphenyldiazine, a naphthalene or an azanaphthalene; R^2 is a phenyl, a substituted phenyl, a
biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-
aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a
biphenyldiazine, a naphthalene or an azanaphthalene; R^3 is a hydrogen, a cyano group, an alkyl
substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH_2 -
groups are replaced by an oxygen atom; and p is 0 to 19; or

(g) the anion comprises:



wherein X is SO_3^- , and R^3 is an alkoxy chain; or

(h) the anion is chiral; or

(i) the cation is based on an N,N' -dialkylimidazole, an N,N' -dialkylbenzimidazole, an
 N,N' -dialkyltriazole, an N-alkylquinuclidine or an N-alkylazanaphthalene; or

(j) the cation is according to formula II:



wherein Y is $NR^4R^5R^6$ wherein R^4 , R^5 and R^6 is in every instance an alkyl group or an alkyl chain containing 0 to 5 carbon atoms, N-alkylimidazoles, N-alkylbenzimidazoles, N-alkyltriazoles, alkylquinuclidines or alkylazanaphthalenes; q is 0 to 19; and R is R^3 , R^1R^3 , $R^1-(CO_2)-R^3$, $R^1-(CO_2)-R^2R^3$, $R^1-(CH_2)_p-R^3$, or $R^1-(CH_2)_p-R^2R^3$; wherein R^1 is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R^2 is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R^3 is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH_2 -groups are replaced by an oxygen atom; and p is 0 to 19; or

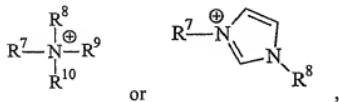
(k) the cation is according to formula II:

$Y-(CH_2)_q-R$ II

wherein Y is $NR^4R^5R^6$ wherein R^4 , R^5 and R^6 is in every instance an alkyl group or an alkyl chain containing 0 to 5 carbon atoms, pyridines, N-alkylimidazoles, N-alkylbenzimidazoles, N-alkyltriazoles, alkylquinuclidines or alkylazanaphthalenes; q is 0 to 19; and R is R^3 , R^1R^3 , $R^1-(CO_2)-R^3$, $R^1-(CO_2)-R^2R^3$, $R^1-(CH_2)_p-R^3$, or $R^1-(CH_2)_p-R^2R^3$; wherein R^1 is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R^2 is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R^3 is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH_2 -groups are replaced by an oxygen atom; and p is 0 to 19; or

biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a cyano group, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(l) the cation is:

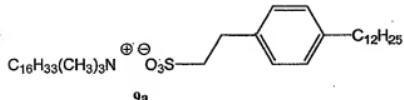
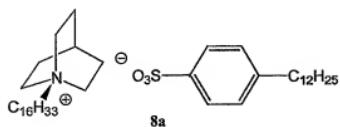
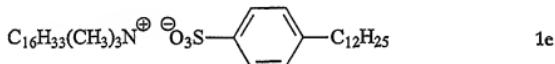


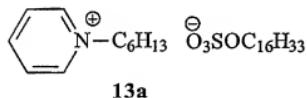
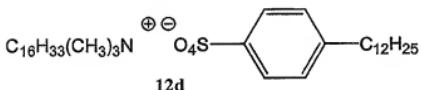
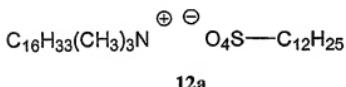
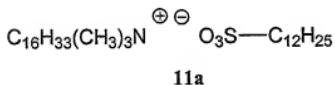
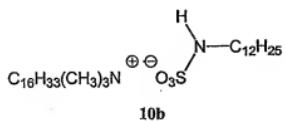
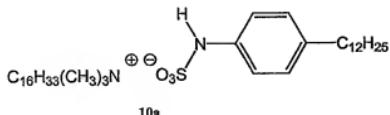
where R⁷, R⁸, R⁹ and R¹⁰ are alkyl chains; or

(m) the cation is *n*-hexadecyltrimethylammonium (HTMA) or *n*-hexadecyldimethylethyl-ammonium (HDME); or

(n) the cation is chiral; or

(o) the dopant is:





31. (new): The composition as claimed in claim 30, wherein the cation is a quaternary ammonium cation.

32. (new): A method to reduce the driving voltage of a device comprising a smectic A liquid crystal composition and to enhance dynamic light scattering of the composition, said method comprising doping a smectic A liquid crystal composition with an ionic dopant comprising a quaternary ammonium cation with an anion.

33. (new): A device comprising a smectic A liquid crystal composition, wherein the smectic A liquid crystal composition comprises one or more ionic dopants, wherein the ionic dopant comprises a quaternary ammonium cation with an anion, wherein the ionic dopant reduces the driving voltage of the device and enhances dynamic light scattering of the composition.

34. (new): The device as claimed in claim 33, wherein the device is a display or a light shutter.

35. (new): A method of doping a smectic A liquid crystal composition, comprising adding an ionic dopant to a smectic A liquid crystal composition, wherein the ionic dopant comprises a quaternary ammonium cation with an anion, wherein the ionic dopant reduces the driving voltage of a device comprising the smectic A liquid crystal composition and enhances dynamic light scattering of the composition.

36. (new): A smectic A liquid crystal composition, comprising one or more ionic dopants, wherein the ionic dopant comprises a quaternary ammonium cation with an anion, wherein the ionic dopant reduces the driving voltage of a device comprising the smectic A liquid crystal composition and enhances dynamic light scattering of the composition, wherein:

(a) the anion is a phosphorus containing anion; or

(b) the anion comprises X, and X is one of the following: S⁻, SO₂⁻, SO₄⁻, NHSO₃, POH⁻,

PO₂H⁻, PO₃H⁻, (PO₃)²⁻, PO₄H⁻ or (PO₄)²⁻; or

(c) the anion is according to formula I:

X-O_m(CH₂)_n-R

I

wherein X is S⁻, SO₂⁻, NHSO₃⁻, POH⁻, PO₂H⁻, PO₃H⁻ or (PO₃)²⁻; m is 0 or 1; n is 0 to 19; and

R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a

phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl,

an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a

terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl,

a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an

aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine,

a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano

group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein

one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(d) the anion is according to formula I:

X-O_m(CH₂)_n-R

I

wherein X is S⁻, SO₂⁻, SO₃⁻, NHSO₃⁻, POH⁻, PO₂H⁻, PO₃H⁻ or (PO₃)²⁻; m is 1; n is 0 to 19;

and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a

phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl,

an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a

terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl,

a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an

aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(e) the anion is according to formula I:



I

wherein X is S⁻, SO₂⁻, SO₃⁻, NHSO₃⁻, POH⁻, PO₂H⁻, PO₃H⁻ or (PO₃)²⁻; m is 0 or 1; n is 0 to 19; and R is R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(f) the anion is according to formula I:



I

wherein X is S⁻, SO₂⁻, SO₃⁻, NHSO₃⁻, POH⁻, PO₂H⁻, PO₃H⁻ or (PO₃)²⁻; m is 0 or 1; n is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(g) the anion is according to formula I:



wherein X is S⁻, SO₂⁻, SO₃⁻, NH₂SO₃⁻, POH⁻, PO₂H⁻, PO₃H⁻ or (PO₃)²⁻; m is 0 or 1; n is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(h) the anion comprises:



wherein X is SO₃⁻, PO₃H⁻ or (PO₃)²⁻, and R³ is an alkoxy chain; or

(i) the anion is chiral; or

(j) the cation is based on an N,N'-dialkylimidazole, an N,N'-dialkylbenzimidazole, an N,N'-dialkyltriazole, an N-alkylquinuclidine or an N-alkylazanaphthalene; or

(k) the cation is according to formula II:

Y-(CH₂)_q-R II

wherein Y is NR⁴R⁵R⁶ wherein R⁴, R⁵ and R⁶ is in every instance an alkyl group or an alkyl chain containing 0 to 5 carbon atoms, N-alkylimidazoles, N-alkylbenzimidazoles, N-alkyltriazoles, alkylquinuclidines or alkylazanaphthalenes; q is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a hydrogen, a cyano group, an alkyl chain, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

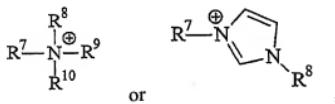
(l) the cation is according to formula II:

Y-(CH₂)_q-R II

wherein Y is NR⁴R⁵R⁶ wherein R⁴, R⁵ and R⁶ is in every instance an alkyl group or an alkyl chain containing 0 to 5 carbon atoms, pyridines, N-alkylimidazoles, N-alkylbenzimidazoles, N-alkyltriazoles, alkylquinuclidines or alkylazanaphthalenes; q is 0 to 19; and R is R³, R¹R³, R¹-(CO₂)-R³, R¹-(CO₂)-R²R³, R¹-(CH₂)_p-R³, or R¹-(CH₂)_p-R²R³; wherein R¹ is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a

non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R² is a phenyl, a substituted phenyl, a biphenyl, a substituted biphenyl, a terphenyl, a substituted terphenyl, an aromatic ring, a non-aromatic ring, a cyclohexyl, a cyclopentyl, a diazine, a bidiazine, a terdiazine, a phenyldiazine, a biphenyldiazine, a naphthalene or an azanaphthalene; R³ is a cyano group, an alkyl substituted cyclohexyl, an alkenyl chain, or an alkyl chain wherein one or more non-adjacent CH₂-groups are replaced by an oxygen atom; and p is 0 to 19; or

(m) the cation is:

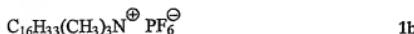


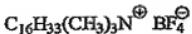
where R⁷, R⁸, R⁹ and R¹⁰ are alkyl chains; or

(n) the cation is *n*-hexadecyltrimethylammonium (HTMA) or *n*-hexadecyldimethylethyl-ammonium (HDME); or

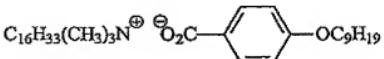
(o) the cation is chiral; or

(p) the dopant is:

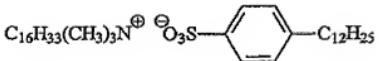




1c



1d



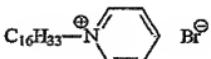
1e



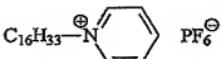
2a



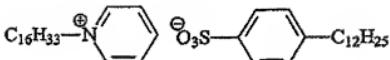
2b



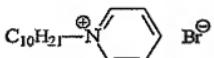
3a



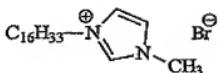
3b



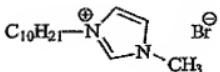
3c



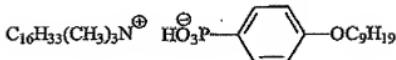
4a



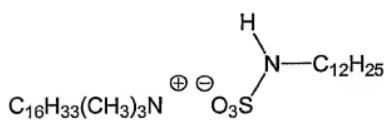
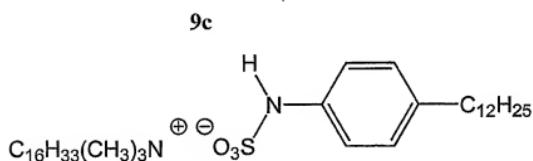
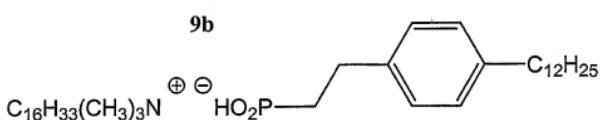
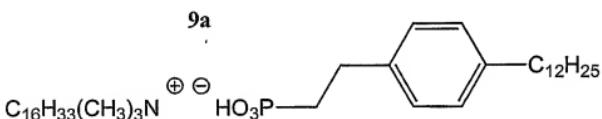
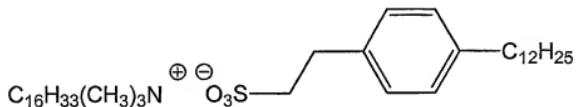
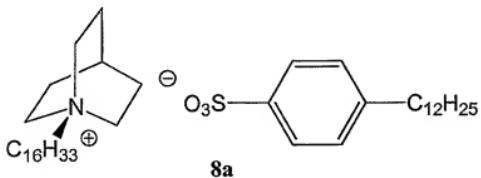
5a



6a



7a





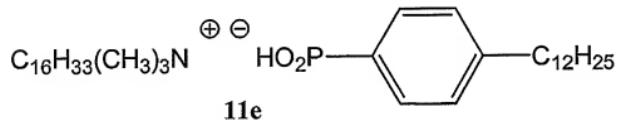
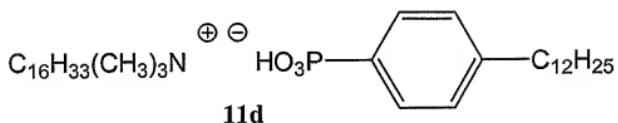
11a



11b



11c





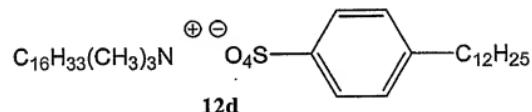
12a



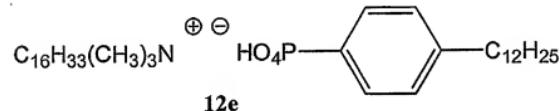
12b



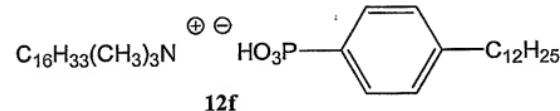
12c



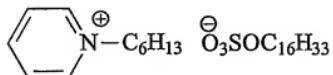
12d



12e



12f



13a

37. **(new):** The composition as claimed in claim 36, wherein the anion is a sulfur or a phosphorus containing anion.